

IN THE CLAIMS

1 (Currently Amended). The method comprising:

receiving in a digital image processor, image data; and

simultaneously determining, in said processor, at least two filters of different sizes from said data.

2 (Original). The method of claim 1 wherein receiving data includes receiving a matrix of data having rows and columns, and reducing the number of rows and reducing the number of columns.

3 (Original). The method of claim 2 including adding rows together and adding columns together.

4 (Original). The method of claim 1 including progressively calculating filters from smaller to larger sizes.

5 (Original). The method of claim 4 including receiving image data values, adding the values together, and multiplying the values by convolution coefficients.

6 (Original). The method of claim 5 including reusing the results of said additions and multiplications calculated for one filter size, when calculating a filter of a larger size.

7 (Original). The method of claim 1 including receiving data values in rows and columns, and adding together data values along diagonals.

8 (Original). The method of claim 1 including calculating at least two filters for a first pixel among said image data and then calculating a filter for an adjacent pixel.

9 (Original). The method of claim 1 including simultaneously generating at least three filters of different sizes.

10 (Original). The method of claim 1 including successively calculating filters of progressively larger size.

11 (Original). An article comprising a medium storing instructions that enable a processor-based system to:

receive image data; and

simultaneously determine at least two filters of different sizes from said data.

12 (Original). The article of claim 11 further storing instructions that enable the processor-based system to reduce the number of rows of image data and reduce the number of columns of image data.

13 (Original). The article of claim 12 further storing instructions that enable the processor-based system to add values associated with rows together and to add values associated with columns together.

14 (Original). The article of claim 11 further storing instructions that enable the processor-based system to progressively calculate filters from smaller to larger size.

15 (Original). The article of claim 14 further storing instructions that enable the processor-based system to receive image data values, add the values together, and multiply the values by convolution coefficients.

16 (Original). The article of claim 15 further storing instructions enable the processor-based system to reuse the results of said additions and multiplications calculated for one filter size, when calculating a filter of a larger size.

17 (Original). The article of claim 11 further storing instructions that enable the processor-based system to receive data values in rows and columns, and add together data values along diagonals.

18 (Original). The article of claim 11 further storing instructions that enable the processor-based system to calculate at least two filters for a first pixel among said image data and then calculate a filter for an adjacent pixel.

19 (Original). The article of claim 11 further storing instructions that enable the processor-based system to simultaneously generate at least three filters of different sizes.

20 (Original). The article of claim 11 further storing instructions that enable the processor-based system to successively calculate filters of progressively larger size.

21 (Original). The system comprising:

a first set of adders to add together rows and to add together columns of image data; and

a second set of adders and a first set of multipliers to calculate at least two different filter sizes from said image data.

22 (Original). The system of claim 21 that progressively calculates filters from smaller to larger sizes.

23 (Previously Presented). The system of claim 22 that utilizes the results from said second set of adders and first set of multipliers for one filter size, when calculating a filter of a larger size.

24 (Original). The system of claim 21 including a state machine that control the operation of said first and second adders and said first set of multipliers.

25 (Original). The system of claim 21 wherein said second set of adders adds image data along diagonals.